Poultry again form a highly interesting group :—

History of native strains.
Hybrids from imported + native stock,
Inter-crossing of imported stock,
especially as to Comb.
Size.
Colour.
Egg production, &c., &c.

Sheep would well repay scientific study.

I will conclude with a reference to the more important literature :—

'Darwin and after Darwin,' Romanes.

'Agricultural Botany,' Percival.

'Mendel's Principles of Heredity,' Bateson (containing a reprint of the original papers, and much recent work of great interest).

'The Evolution of British Cattle,' Wilson.

'Heredity,' Thomson (not consulted by me in the original).

Many articles in 'Live Stock Journal' by C. J. Davies.

Article 'Heredity,' in 'Encycl. Med.' Vol. 15.

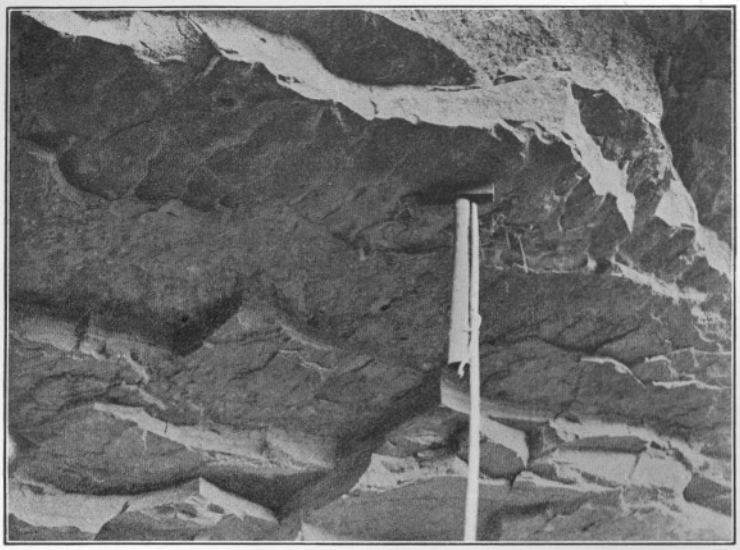
For a full bibliography see Bateson.

TWO FINDS ON MOUNT KENIA

By W. McGregor Ross, M.Sc.

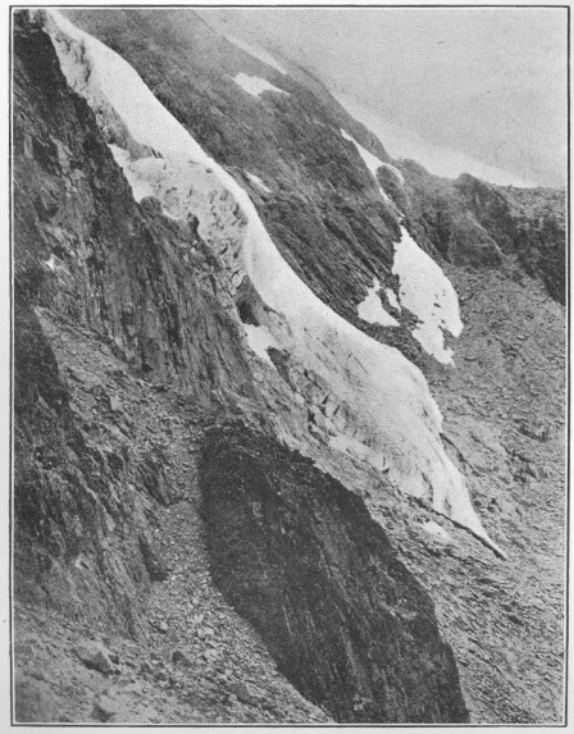
This short article gives a bare statement, attended by but little attempt at explanation, as to a couple of unexpected finds made on Mount Kenia, which was visited by the writer in June 1908, in company with Mr. D. E. Hutchins, Chief Conservator of Forests of the Protectorate, and Mr. S. Neilsen, one of his foresters.

The valley which collects the numerous streams flowing down the north-west slopes of Kenia, and throws them through the forest girdle and out on to the Laikipia plateau as the River Buguret, has been named after Mr. C. B. Hausburg, who



No. 1. VIEW LOOKING UP AT THE UNDERNEATH SIDE OF THE PROJECTING SHELF OF STRATIFIED ROCK WHICH PRESENTED THE CAST OF RIPPLE MARKS.

The geologist's hammer, tied to the end of a stick, was held against the ripple-marks to "give the scale." *(See p. 61)*



Photographic Details:—

Quarter-Plate Photographs.

Lens: Zeiss Double Protar, Series VII a. Focal Length $5\frac{3}{4}$ ins.

No. 1. Ordinary Backed Plate. Speed 180 H. & D. Bright grey sky, no direct sunshine.
Time: 9.30 a.m.
Stop *f*/11.
Exposure: 3 seconds.
Altitude: 13,000 feet.

No. 2. Isochromatic Backed Plate. Speed 220 H. & D. Clear grey light.
Time: 1.30 p.m.
Stop: *f*/11.
Exposure: $\frac{1}{2}$ second.
Altitude: 14,500 feet.

No. 2. THE CÉSAR GLACIER, NORTHERN KENIA.

Side view from a distance of about half a mile. *Photos by W. M. Ross.*

was largely concerned in the organisation of the expedition which, in the year 1899, resulted in Mr. Mackinder's achieving the first ascent to the summit, in company with two Swiss guides, César and Joseph. This Hausburg valley may be easily reached in four days from the Government station of Nyeri. It is of interest as containing some of the clearest indications to be seen on the mountain of the much-extended glaciation which prevailed upon it in past ages. A succession of moraines run across the valley like long curved railway embankments at distances ranging up to three or four miles below the present limit of the ice. Before reaching this point, the writer had almost completed an entire circuit of the mountain, starting on the south side and passing round by the east and north, and arriving, a few days after leaving the Hausburg valley, at the starting point again. Throughout this journey, nothing but igneous rocks had been met with, but here, high up on the northern slopes of the valley at an altitude of close upon 13,000 feet, one comes across an exposure of sedimentary rocks. Below them was an unknown thickness of igneous rocks. In turn they were overlain by heavy lava flows of several hundred feet in thickness. They appear to be composed of a fine ash of a dull buff colour. The exposure consisted of a vertical face, of a depth of ten or twelve feet,[1] underneath an overhanging ledge of rock, projecting almost horizontally for about eight or ten feet forward from the vertical face alluded to. A striking feature, as one looked up at this overhanging shelf from below, was a very regular wavy pattern left on its under side as the softer stratified ash below had weathered away and fallen down (see Illustration No. 1). One could not help coming to the conclusion that these were a 'cast' of *ripple-marks*—the effect of wave action on a shore composed of the fine ash in question. One is immediately faced with the problem as to what conditions could have existed to provide a shore-line subjected to wave action at this altitude. They may have been formed when the stream descending this quarter of the mountain was a broader and fuller river,

[1] A photograph of this feature has been deposited in the Society's Museum at Nairobi.

derived from much more extensive icefields above, and swelling in the day time as the tropical sun increased their discharge, and contracting in volume as the cold of evening came on. This process may daily be seen in operation in the small streams which are now delivered from the glaciers. Equally, they might have been formed on the shores of a lake basin, so situated as to fill up more rapidly during the day than the water could escape from the discharge outlet. At night as the supply ceased, the continuous discharge from the exit might lower the level which the water had reached during the day. Under either of these suppositions there would occur the rise and ebb of wind-swept water over a soft shore, which would result in the formation of ordinary 'sea-shore ripples.' Then, bursting through the ice world above this desolate sheet of water, came another discharge of ash, forming, in the lake-shore ripples, the 'cast,' which is now left exposed to view.[1] Later in the mountain's history came other lava flows covering stream bed or lake basin under floods of molten rock. For the present, at any rate, volcanic activity is not in evidence, and the never-ceasing trickle from the glaciers, supplemented by the violent rain storms that occur on the mountain,[2] has worn through the overlying lava cap, through the bed of ash, and far into the underlying masses of rock, with the result that the ripple marks are now some 200 feet above the noisy stream which cascades along the valley bottom below.

The head of the valley, as one approaches it, is closed by the bold mass of Point Piggott, so named by Professor J. W. Gregory[3] after Mr. J. R. W. Piggott, administrator of the Imperial British East Africa Company. Passing to the north of this mountain, the valley ends in a corrie into which deliver the two small glaciers named after Mr. Mackinder's guides. Passing the César glacier (see Illustration No. 2), and the little tarn that lies at its foot, one arrives at last at the moraine that lies just below the Joseph glacier at an altitude of about

[1] One of the 'ripples' from this cast was chipped out and has been placed in the Society's Museum.

[2] The writer's rain-gauge measured a fall of 1·66 inches in fifty minutes on the North-East side of the mountain on April 20, 1908.

[3] See 'The Great Rift Valley,' page 173, by J. W. Gregory, D.Sc., &c. (21*s*. John Murray, 1896.)

14,500 feet (see Illustration No. 3). And here, half-way up the steep slope of stones and boulders, our second find was made. A tawny, khaki-coloured object lying upon the grey waste of boulders turned out, on inspection, to be the almost intact carcase of a buffalo. It was as hard as wood, and was probably frozen solid. The eyes had been attacked by birds, but otherwise it was uninjured. The horns measured thirty inches on the inside of the curve. How this solitary animal came to die there, at an altitude of something like 5000 feet above the usual haunts of its species, is a mystery which the writer is content to record but unable to explain.

Mr. Mackinder has mentioned the discovery of a buffalo skeleton at an altitude of 14,000 feet on the east side of the mountain.

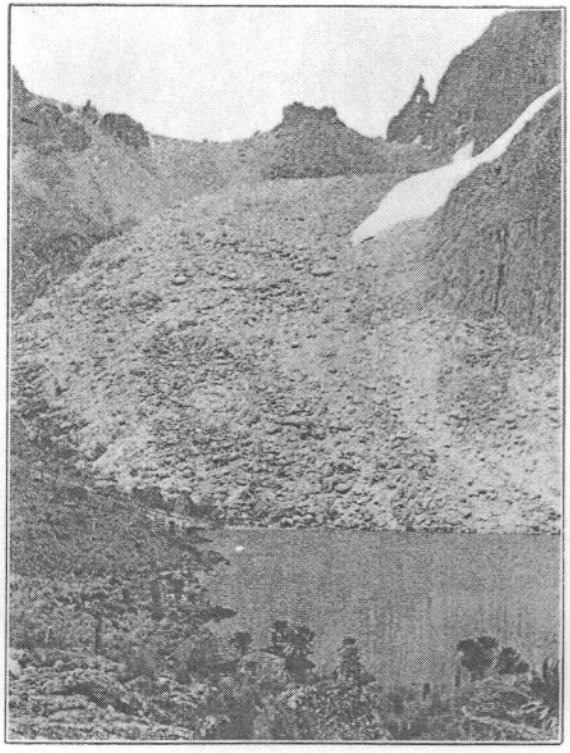
Unless further rock-slides, skating down the very steep surface of the glacier, have covered the carcase since the accompanying photograph (Illustration No. 4) was taken, it is still probably available for inspection. Nor need the possibility of visiting this spot be considered a hopeless one by the average resident in, or visitor to, this country. With a carefully picked and well-fed caravan, one can travel from Naivasha, on foot all the way, *up to the glaciers and back in a fortnight.* As this fact becomes more generally known, it may be expected that a run up to the glaciers will become the rule with travellers and sportsmen in this country, instead of being, as at present, an almost unheard-of exception.

NOTES ON THE FAUNA OF BARINGO DISTRICT

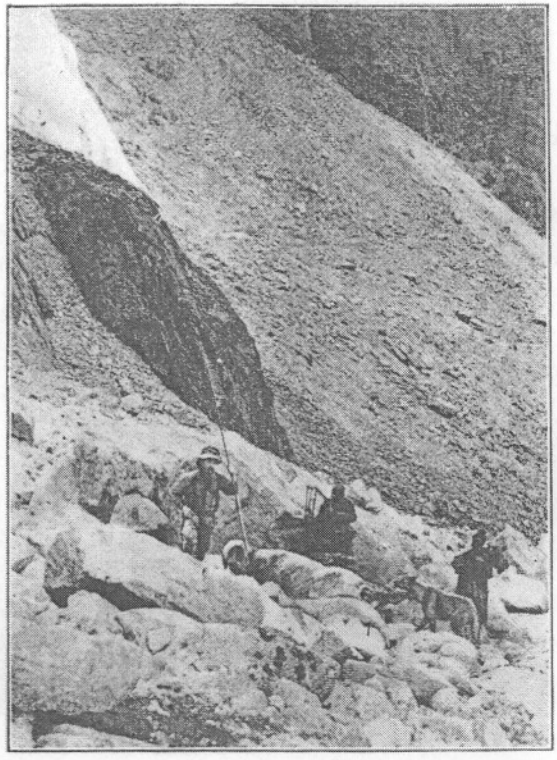
By Hon. K. Dundas

The country lying between the River Kerio and the foot of the Suk hills is a vast expanse of dense and very thorny scrub. Through the centre of this flows the River Krut—more familiarly known by its Swahili name Weiwei—on its way to its junction with the Tirkwel at Ngabotok.

Apart from the elephant very little game is to be met with in this scrub; here and there a few *Thomsoni* or a stray oryx



No. 3. MORAINE AND TARN BELOW THE JOSEPH GLACIER, NORTHERN KENIA.
Isochromatic Backed Plate. Speed 220 H. & D.
Hazy sunlight.
Time: 1.50 p.m. Stop: *f*/22. Exposure: ½ second.



No. 4. BUFFALO CARCASE LYING ON THE MORAINE SHOWN IN ILLUSTRATION No. 3.
The snout of the César Glacier appears in the left-hand top corner.
Isochromatic Backed Plate. Speed 220 H. & D. Sky heavily overcast.
Time: 1.20 p.m. Stop: *f*/16. Exposure: 1 second.
(*See p. 83*) *Photos by W. M. Ross.*